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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/573,077

03/23/2006

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R-0602Y

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EXAMINER

WALBERG, TERESA J

ART UNIT

PAPER NUMBER

3744

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/573,077	Applicant(s) KATO, SOICHI	
	Examiner Teresa J. Walberg	Art Unit 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15, 18-22 and 47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15, 18-22 and 47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 15, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Negishi (2002/0101718).

Negishi discloses a heat exchanger tube (Figs. 1 and 2) including a tube body portion including an outer shell of flow passages (12) for flowing a medium, corrugated inner fins (17) for dividing the flow passages, the tips of the inner fins being flat tubes brazed to the inner surface of the tube body portion (Fig. 2), a brazing material being not clad to a first material constituting the tube body portion, but clad to a second material constituting the inner fins (para. 0021, lines 3-6), the tops of the inner fins being flat (Fig. 2), the ends of the second material being brazed with the first material by the brazing material which is clad to the second material (Fig. 2 and para. 0021, lines 3-6), both ends of the first material (the left and right ends of the outer tube as shown in Fig. 2) being engaged and brazed with an end of the second material (fin 17) sandwiched (interpreted to mean located between) at one end of the tube in its breadth direction so as not to separate from each other (Fig. 2), the portion between the tips of the inner fin being not perpendicular with respect to the central axis of the tube in its breadth direction (Fig. 2).

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Negishi (2002/0101718) in view of Kawabe (5,260,142).

Negishi discloses a heat exchanger tube as claimed with the exception of an Al-Zn alloy layer formed on the surface of the tube. Kawabe discloses providing an Al-Zn alloy layer formed on the surface of a heat exchanger tube to prevent corrosion of the tube. It would have been obvious in view of Kawabe to provide an Al-Zn alloy layer formed on the surface of the tube of Negishi, the motivation being to prevent corrosion of the tube.

5. Claims 2-13 and 19-22 rejected under 35 U.S.C. 103(a) as being unpatentable over Negishi (2002/0101718).

Negishi discloses a heat exchanger tube as claimed with the exception of specifying the thicknesses of the layers, the sizes of the parts, and the melting temperatures of the brazing materials. However, it would have been obvious to one of ordinary skill in the art to give the parts of Negishi any desired sizes and thicknesses and to use brazing materials with any desired melting temperatures,

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based on the intended use of the device. It is further noted that claims 19-22 are directed to a heat exchanger tube, and not to a heat exchanger. Thus the clauses in claims 19-22 relating to the intended structure and method of assembly of the heat exchanger in which the tube is intended to be used are considered to be met since the tube is capable of such use.

6. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Negishi (2002/0101718) in view of Toyo Radiator (JP 64-8071, cited by applicant) .

Negishi discloses a heat exchanger tube as claimed with the exception of the ends of the first material being brazed to each other and to the inner fins.

Toyo Radiator discloses a heat exchanger tube having ends that are brazed to each other and to the inner fins (See Fig. 1). It would have been obvious in view of Toyo Radiator to provide a brazed together outer tube for the heat exchanger tube of Negishi, the motivation being to enable less expensive manufacture of the device.

7. Claim 47 is objected to because of the following informalities: In the second line from the end of claim 47 “first” is misspelled. Appropriate correction is required.

8. The disclosure is objected to because of the following informalities: The specification refers to specific claim numbers. However, a number of the claims

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referred to have been amended or cancelled. The specification should be amended to remove references to specific claim numbers.

Appropriate correction is required.

9. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited on form PTO-892 or considered in an Information Disclosure Statement, they have not been considered.

10. Applicant's arguments filed 05 June 2008 have been fully considered but they are not persuasive.

The applicant argues that with respect to claim 1 the office action does not identify what constitutes the ends of the first material, where they are engaged or where they are brazed. The ends of the first material are considered to be the left and right ends of the outer tube (12) as shown in Fig. 2. Both left and right ends of the tube 12 are engaged and brazed with an end of the inner fin 17.

The applicant argues that the casing 12 of Negishi is monolithic and unitary in construction and that the casing cannot be engaged or brazed. However, only newly presented claim 47 requires that ends of the first material be engaged with each other and brazed with each other. For the remaining claims it is sufficient that the first

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material be engaged and brazed with some other member, such as the inner fin as is disclosed by Negishi. Each end of the casing 12 of Negishi is considered to be brazed to an end of the inner fin so that the inner fin and the casing are not separated from each other.

The applicant argues that Negishi does not disclose relative melting points of brazing materials. However, it would have been obvious to one of ordinary skill in the art to select different brazing materials based on their desired melting points.

Note that claims 19-22 are directed to a heat exchanger tube, and not to a heat exchanger. Thus the clauses in claims 19-22 relating to the intended structure and method of assembly of the heat exchanger in which the tube is intended to be used are considered to be met since the tube is capable of such use.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Teresa J. Walberg whose telephone number is 571-272-4790. The examiner can normally be reached on M-F 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Teresa J. Walberg/
Primary Examiner, Art Unit 3744

/TW/